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Specification and Drawings, as originally filed with Application for Patent Serial No:
**2,276,637,** on June 30, 1999, by **ALAN A. MCNAUGHTON AND E. JOHN R.
SINTON,** for "Multipersonality Automated Transaction Execution System".

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# ABSTRACT

A dynamically branded transaction execution system including member institutions, an automated shared transaction terminal, and a processing and routing system to connect and process information between the member institutions and the automated terminals. Each of the terminals contains an identification device, user interface, a material device and a device for storing data. When a customer uses one of the transaction terminals, the user interface is subsequently modified to a full service transaction machine. The transaction terminal is dynamically branded such that the branch behaves as though it were owned by the member institution for the duration of the customers transaction and provides the full service desired by the customers of the selected member institution. Different forms of communication can include a display, a keypad or touch pad, an audio system and a video system. Different ownership and licensing arrangements of the transaction execution system with a plurality of membership institutions is provided.

# MULTIPERSONALITY AUTOMATED TRANSACTION EXECUTION SYSTEM

The present invention relates to transaction execution systems.

## BACKGROUND OF THE INVENTION

Banks and similar financial institutions have used automated teller machines, otherwise known as ATMs, for many years. Initially, each traditional institution installed its own ATMs (captive ATMs) at bank branches and other locations. These captive ATMs initially varied in level of functionality, but over time to provided more services at lower costs, greater convenience, and greater access to the customers. The services typically offered by captive ATMs include cash withdrawals, transfers between some of the customers accounts, the ability to deposit items of value such as cash or cheques, and checking of account balances. One disadvantage of this ATM system is that each institution only has a limited number of physical ATM locations.

Institutions have also begun to use captive ATMs to obtain data on customer habits, and to customize the behavior or options offered by a captive ATM based on how the institution wishes to treat a selected customer group or specific customer. A key to offering these value added and/or differentiating services has been the ability of the traditional financial institutional to control the behavior of the captive ATMs used by its customers. The control is typically accomplished by the financial institution owning and/or operating, and defining many or all aspects of the logic, presentation, communications, performance, appearance, electronic transactions, paper transactions, cash type, denominations, and many other aspects of the captive ATM operation. The disadvantage of this system is the limited coverage of a customer base, dependent on the number and location of the ATMs, with the associated costs of establishing and maintaining a network captive of ATMs.

As ATM usage grew, so certain traditional institutions saw advantages in providing their customers with access to additional ATMs not owned by the institutions. Regional or national consortiums were created amongst cooperating traditional institutions, as well as amongst independent providers, to provide access to each other's ATMs. Because of the need for

technical simplicity and compatibility, these cooperative ventures tended to be based on the lowest common denominator of ATM capability, typically cash withdrawal from one or a limited number of generically defined account types. Additional features included balance inquiry and/or inter-account transfers for similar generically defined accounts. Examples of these consortiums are "Interact" in Canada, "Visa Plus Network", and "MasterCard Cirrus Network". These particular networks were primarily interested in the basic functionality of cash withdrawal in local currency using internationally recognized credit cards in a large number of locations. Unfortunately, the "full service" provided by captive ATMs is not accessible by customers using the ATMs not owned by a customer's institution. Another disadvantage of the consortium branch system is that ATMs are always driven by one "host" institution, whereby the transactions to other "guest" institutions are controlled.

As the usage of ATMs grew and the networks used to exchange ATM transaction information between traditional institutions became more widely accessible, so an opportunity arose for ATMs not owned by any financial institution, commonly known in the industry as "White Label" ATMs. White Label ATMs were attractive to retail merchants and similar enterprises, whereby customers able to withdraw cash on the merchant's premises would be more likely to enter the premises and or spend more money while on the premises if they made a cash withdrawal. One disadvantage is that these White Label ATMs only have a limited functionality, as compared to captive ATMs.

Presently in the art, there is a proliferation of limited service ATMs. Full service is only available from captive ATMs, controlled by the traditional institution issuing the access means such as a transaction card. Very limited services at White Label ATMs are available at a very large number of other locations by means of the many interconnected financial transaction networks.

While the importance and numbers of both full service and White Label ATMs have been growing, the importance and desirability of traditional bricks-and-mortar bank branches has been declining. New banks have been created that are based on a very limited traditional branch network, sometimes with no physical branch network at all. These virtual banks typically use the Internet, a telephone call center, and/or a telephone interactive voice response system to conduct transactions with their customers. However, for any transaction requiring physical interaction between the virtual banks and their customers, such as the withdrawal of cash, the

- 2 -

virtual banks have had to rely on the general ATM network. The access of virtual institutions to the established ATM network is through the lowest common denominator functionality, which is owned by traditional institution competitors, or by White Label ATM providers and/or operators. These virtual banks would like to position themselves as leaders in technology, convenience, and low cost transactions, but existing access to current networks ATM is very restrictive.

For other transactions, such as the issuance of a certified cheque, or the deposit of funds via cheque or other negotiable paper instruments, the virtual institution is typically restricted to using the post mail system, or using the premises or facilities of another more traditional bank. Examples of this practice are PC Financial offering more through CIBC terminals, and Mbanx offering more through the terminals of Bank of Montreal. This procedure is costly, cumbersome, and slow compared to the service level such virtual banks wish to provide, and which their customers expect. These virtual banks are able to control the interface and interaction with their customers when dealing with the customers by telephone or by the internet, but must subject their customers to the branding and advertising of competing traditional institutions when their customers must use the ATMs of those traditional institutions.

In addition, any institution that may want to attract customers over a large geographic area, an adequately large network of ATMs would be required to obtain this goal, is not economically feasible. Furthermore, there are a limited number of desirable locations in which to situate ATMs and there force an insufficient number of suitable physical locations to permit the creation of independent, distinctive ATM network for every institution.

It is therefore an object of the present invention to provide a transaction execution system in which the above disadvantages are obviated or mitigated.

## SUMMARY OF THE INVENTION

In accordance with this invention there is provided a transaction execution system comprising:

(a) a transaction terminal for facilitating a session between a user and a desired institution, said institution including identifiable branding;

(b) a communication system responsive to a user identification for coupling said terminal to a desired one of a plurality of said institutions; and

- 3 -

(c) a configuration system for configuring said terminal in accordance with said branding information for said desired institution, thereby dynamically branding said terminal with the identity and functionality of said institution.

In accordance with a further aspect of this invention there is provided a method for dynamically branding a transaction terminal, said method comprising the steps of:

(a) initiating at said terminal a session between a user and a desired institution, said institution including identifiable branding;

(b) coupling said terminal to a desired one of a plurality of said institutions in response to a user identification;

(c) configuring said terminal in accordance with said branding information received from said desired institution, thereby dynamically branding said terminal with the identity and functionality of said institution.

In another aspect of the invention, the dynamically branded transaction execution system consists of a plurality of member institutions, at least one automated shared transaction branch, and a processing and routing system. The customer of the system is provided with a macro identity known to the system, whereby a virtual macro account is provided such that the customer can access at least one account from each of at least two of the participating member institutions. The user can then perform a plurality of transactions within and between the accounts as though the accounts held by separate member institutions were all at one national and/or international institution.

# BRIEF DESCRIPTION OF THE DRAWINGS

These and other features of the preferred embodiments of the invention will become more apparent in the following detailed description in which reference is made to the appended drawings wherein:

Figure 1 is a schematic of the main components of a dynamically branded transaction execution system;

Figure 2 is a shared transaction branch of Figure 1;

Figure 3 is a user interface of the transaction branch of Figure 2;

Figure 4 is an alternative embodiment of Figure 1; and

Figure 5 is an alternative embodiment of Figure 1.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Figure 1, a dynamically branded transaction execution system 8 includes a plurality of shared transaction branches 10 connected to a processing and routing system 12. The switch system 12 interconnects the branches 10 with a plurality of member institutions 14, including but not limited to financial institutions such as banks and brokerage houses, and non-financial institutions such as merchant organizations and individual outlets thereof. A database 13 can be used by the transaction branches 10 for dynamic branding and other required information. Alternatively the router 12 may also have access to a database 13a containing the branding information. This however, depends on the speed of the link to the branch 10.

The branch 10, shown in Figure 2, includes an identification device 16 (preferably a card reader), a user interface 18, and a material device 20 for providing and receiving materials to and from a customer (not shown) respectively, such as but not limited to cash withdrawals and deposits, cheques, coupons cards or stored value cards, a plurality of transactions requiring a proximity of physical media or storage devices to the system 8, product informationand advertising, plus any other transactions and communication to the maximum extent permitted by the technology and capability of the member institutions 14 to which the system 8 is ultimately connected. The plurality of transactions may not necessarily involve a transfer of a physical entity, such as the transfer of money to a stored value card. A data storage module 15 may be used to keep on site transaction records and may also be used to store the identity and/or functionality of the user interface 18, defined by the member institutions 14.

The user interface 18 of the preferred embodiment, shown in Figure 3, is used to communicate desired information between the customer and any of the member institutions 14 sharing the transaction execution system 8. Different forms of communication include a display 22 and a keypad, touch pad 24 or touch screen, or any combination of user input devices known in the art for the entering of numerical information, non-numerical information, and the selection of presented options. In addition, an audio system 26, a video system 28, and/or a keyboard 30 may also be included if desired. The user interface 18 facilitates the dynamic branding of the branch 10 with the identity and or functionality defined by the member institutions 14 or other businesses at any given time. Multiple displays may be used in the branch 10, some of which may be dedicated as a static sign similar to those in conventional captive ATMs.

- 5 -

In operation of the transaction execution system 8 of the preferred embodiment, the user is first identified by the identification device 16, in the case of a card reader by entering a card and a code number (i.e. PIN). Based on the identification information obtained from the customer, the branch 10 is connected by the switch system 12 to the member institutions 14 selected by the customer. The user interface 18 is subsequently modified to a full service transaction machine, dynamically branded such that the branch 10 behaves as though it were owned by the member institution 14 for the duration of the customer's transaction and provides the full service desired by the customers. Once the customer is finished their transaction, the branch 10 reverts to a generic standby mode and is ready for interaction with another customer.

In an additional embodiment, the customer may manually select through the user interface 18 any desired member institution 14 supported by the users identification information, at any time during the transaction process. One such tailoring is the creation of a macro-account whereby the customer can access a plurality of accounts from different member institutions 14 as though each of the accounts were all held at one combined institution. The design and behaviour of the user interface 18 may be tailored to the needs of the customer. This may be done by institutions 14 or also by the routing system 12. The system 8 may also provide tailoring for generic and/or macro users in addition to the tailoring supplied by member institutions 14. Examples of this additional system tailoring include a tailored system identity that could be one, or a combination of more than one, of the identities with individual member institutions 14; and in the case, where the system 8 provides information on itself or its members to a person who is not known during a request to be a member of any member institution 14.

Another embodiment of the present invention is a macro function which allows transactions between cards and/or accounts belonging to different people, such as between spouses and friends.

In a further embodiment, shown in Figure 4, a plurality of external devices 30 may be connected to the execution system 8. The device 30 can include but is not limited to a portable transaction branch, a third party transaction system, or the like. The overall character of the dynamic branding of the external device 30, as well as the type and the number of possible transactions thereon is only limited by the capabilities of a user interface 18a of the device 30. A connection 32 between the device 30 and system 8 is accomplished preferably by a modem, wireless connections, or the like. The connection 32 can also be made via the internet, private

intranet, through many associated networks, or any other communications device capable of facilitating the required data transfer. This embodiment allows the user to conduct a plurality of transactions from a location chosen by the customer.

Another embodiment, the dynamically branded transaction execution system 8 is used by virtual institutions, such as virtual banks and or merchant organizations that do not have traditional brick-and-mortar locations. This allows these virtual institutions to have, in effect, multiple branches 10 provided by the system 8, tailored to the needs of the individual virtual institutions.

In a further embodiment, shown in Figure 5, the execution system 8 is connected to a plurality of traditional financial transaction networks 32, rather than directly to individual member institutions 14.

In the above described embodiments, the member institutions 14 have control over the behavior (or functionality) and presentation of the branch 10 for the duration of use of the automated transaction branch 10 by their customers. This is accomplished by the system 8, which is capable of providing for the duration of the interaction either a full functionality connection between the member institution 14, selected by the customer, and the automated transaction branch 10, or by providing the desired functionality on behalf of the member institution. In reference to the above-mentioned full functionality, it is dependent on whether the participating member institution 14 chooses take advantage of all of the available capabilities offered by a particular branch 10, or a smaller subset thereof.

The computer system 12 that interconnects the automated branches 10 and the member institutions 14 can support several ownership modules, which may be necessary in certain jurisdictions to meet regulatory requirements. The ownership modules supported include by way of example only:

1. a selected number of the automated branches 10 is owned by an operator and is made available to the member institutions 14 on a contractual basis with either a charge for time used and/or per transaction;

2. a selected number of the automated branches 10 is owned by the operator when idle and is sold to the member institution 14 at the time their customer is identified as being at the branch 10 ready to do the transaction. The branch 10 is then sold back to the operator at the end of the interaction with that customer;

3.      a selected number of the automated branches 10 is owned by the operator when idle and is leased to the member institution 14 at the time their customer is identified as being at the branch 10 ready to do the transaction. The lease ends at the end of the interaction with that customer; and

4.      a selected number of the automated branches 10 is owned by a third party, such as a merchant, and as in the ownership modules 2 and 3 above, is either sold or leased to either the operator or the member institution 14 for the duration of the transactions.

All of the above examples fall under a more generic ownership module of contractual access to provide a service, and temporary ownership.

One benefit of the present invention is that member institutions can provide customer access to full service transaction branches over a large shared network of dynamically branded transaction branches 10, while preserving the ability of each member institution 14 to control, brand, and benefit from their customers interaction with the system 8. The system 8, in addition to financial transactions, can also be used with other types of transactions including the issuing of loyalty coupons, product information, and the gathering of data for loyalty or other marketing cross-marketing or commercial purposes. This customer data, collected by specific member institutions 14, or by the routing system 12, could be shared with other member institutions 14, or others, if desired.

Although the invention has been described with reference to certain specific embodiments, various modifications thereof will be apparent to those skilled in the art without departing from the spirit and scope of the invention as outlined in the claims appended hereto.

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1.  A dynamically branded transaction execution system comprising: a plurality of member institutions, and at least one automated shared transaction branch processing and routing system to connect and process information between said member institutions and said branch and; wherein each of said shared transaction branches are configured such that when a customer is identified to any of said shared transaction branch, said branch comes under the effective control of a selected number of said member institutions.

2.  The dynamically branded transaction execution system according to claim 1, wherein a behavior and functionality provided to said customer by any of said transaction branches is substantially the same as if said selected member institution owned and controlled said shared transaction branch exclusively and completely.

3.  The dynamically branded transaction execution system according to claim 2, wherein said system is directly connected to at least one traditional transaction network.

4.  The dynamically branded transaction execution system according to claim 2, wherein said system is directly connected to at least two member institutions.

5.  The dynamically branded transaction execution system according to claim 2, wherein said system is directly connected to at least one transaction network and at least one member institution.

6.  The dynamically branded transaction execution system according to claim 1, wherein said customer is provided with a plurality of available options to select at least one of said member institutions desired by said customer based on said identification information thereof.

7.    The dynamically branded transaction execution system according to claim 1, wherein said transaction branch includes a user interface to provide communications directly with a representative of said member institution from said shared transaction branch.

8.    The dynamically branded transaction execution system according to claim 7, wherein said communication includes audio conferencing.

9.    The dynamically branded transaction execution system according to claim 7, wherein said communication includes video conferencing.

10.    The dynamically branded transaction execution system according to claim 7, wherein said representative is situated as part of said processing and routing system.

11.    The dynamically branded transaction execution system according to claim 7, wherein said representative is situated at a location of said member institution.

12.    A dynamically branded transaction execution system consisting of at least one member institution, a processing and routing system, and at least one automated shared transaction branch, wherein a customer of said system is provided with a macro identity known to said system.

13.    The dynamically branded transaction execution system according to claim 12, wherein a virtual macro account is provided such that said customer can access at least one account from each of at least two member institutions and perform a plurality of transactions within and between said accounts as though said accounts held by separate said member institutions were all at one institution.

14.    A transaction execution system comprising:
(a) a transaction terminal for facilitating a session between a user and a desired institution, said institution including identifiable branding;

(b) a communication system responsive to a user identification for coupling said terminal to a desired one of a plurality of said institutions; and

(c) a configuration system for configuring said terminal in accordance with said branding information for said desired institution, thereby dynamically branding said terminal with the identity and functionality of said institution.

15. The transaction execution system as defined in claim 14, wherein said user having a user profile defined by said institution.

16. The transaction execution system as defined in claim 14, wherein said branding information being included at said terminal.

17. The transaction execution system as defined in claim 14, wherein said branding information being received from said institution on a session by session basis.

18. The transaction execution system as defined in claim 14, wherein said terminal being configured with said branding for the duration of a users session and reverting to a first configuration at the end of a session.

19. The transaction execution system as defined in claim 14, wherein said terminal including a user identification system for automatically identifying said user to a desired institution.

20. The transaction execution system as defined in claim 14, wherein said branding information being included in said communication system.

21. A method for dynamically branding a transaction terminal, wherein said method comprising the steps of:

(a) initiating at said terminal a session between a user and a desired institution, said institution including identifiable branding;

(b) coupling said terminal to a desired one of a plurality of said institutions in response to a user identification;

- 11 -

(c) configuring said terminal in accordance with said branding information received from said desired institution, thereby dynamically branding said terminal with the identity and functionality of said institution.
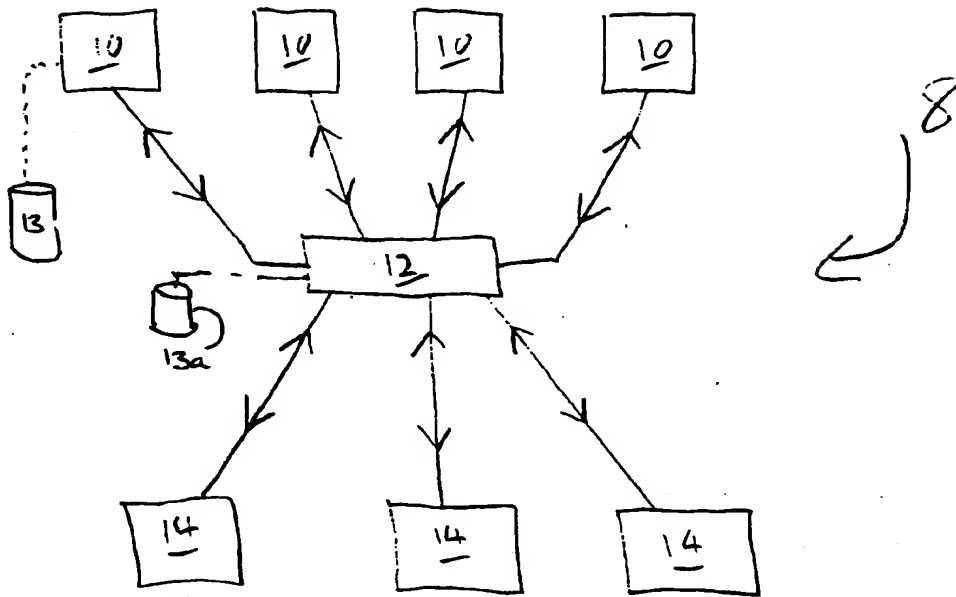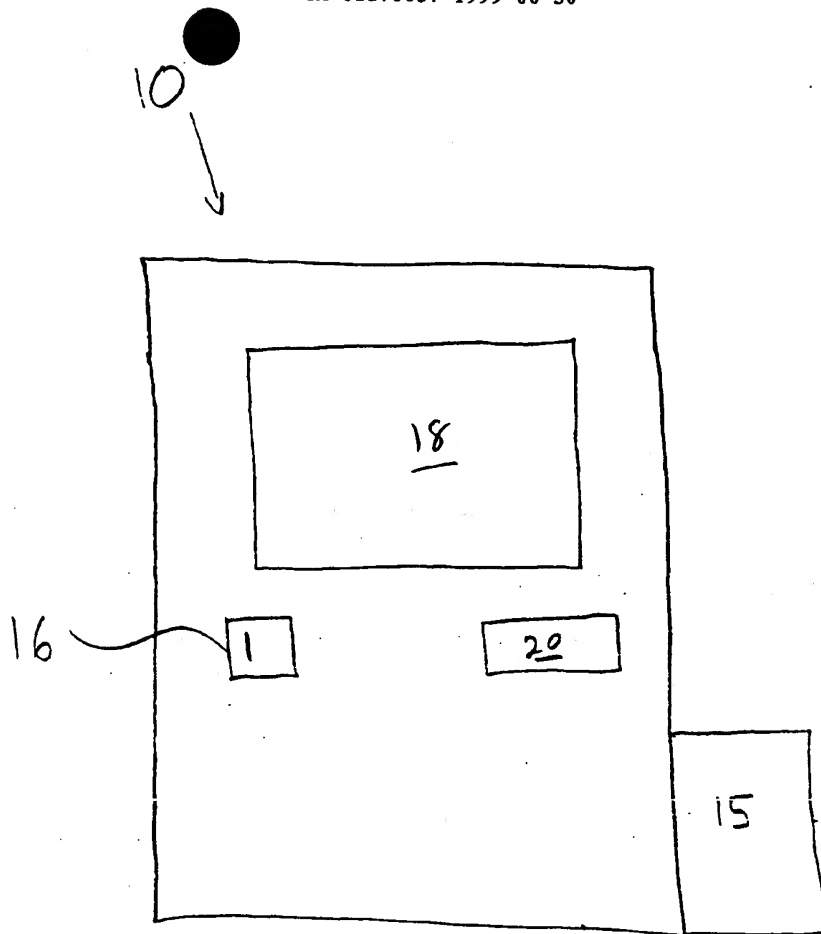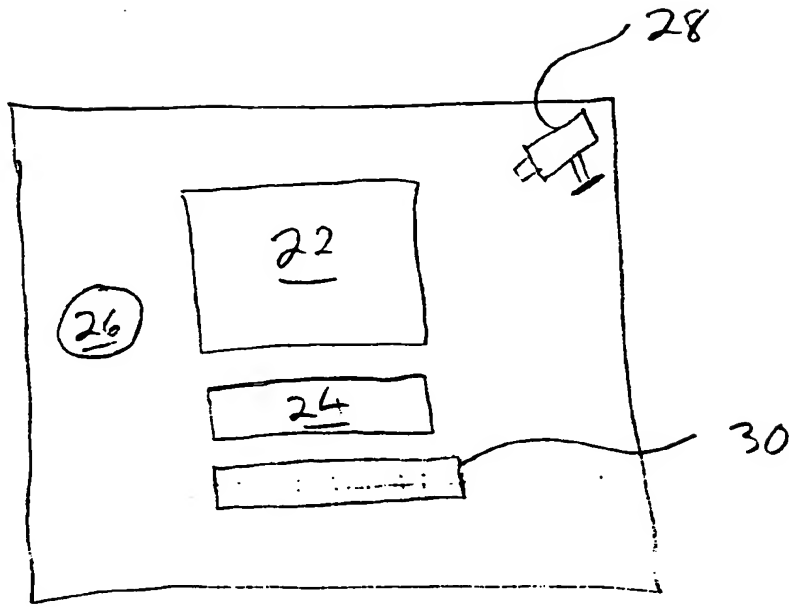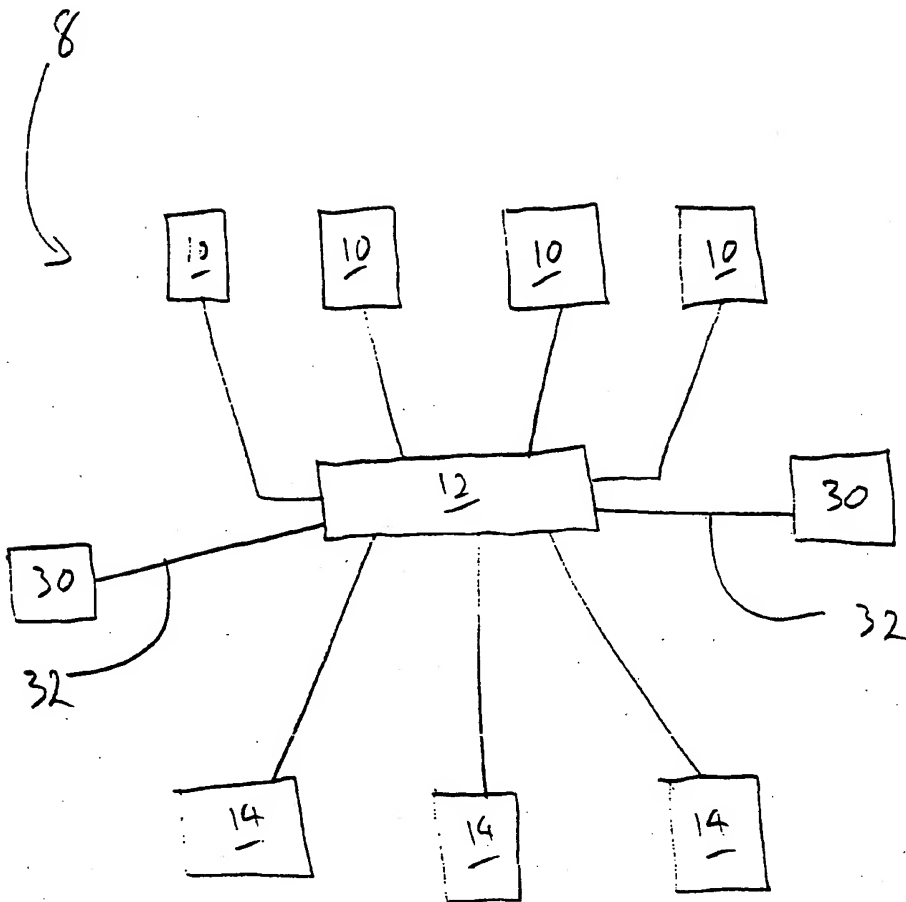
Fig. 1

10

18

16

1

20

15

Fig. 2

18

28

22

26

24

30

Fig. 2

8

10   10   10   10

30

12

30

32

32

14   14   14

Fig. 4

Fig. 5